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EXAMINER

LUK, EMMANUEL S

ART UNIT

PAPER NUMBER

1791

NOTIFICATION DATE

DELIVERY MODE

03/06/2009

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

PATDOCTC@fr.com

DETAILED ACTION

Status of Claims

1. Status of Claims: Claims 1-18 are pending.

Claim Rejections - 35 USC § 103

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
3. Claims 1, 2, 5-8, 10-15, 17, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Heidari (2003/0159608) in view of Hector (5804017).

Heidari teaches a lithography device for structure of the nanometer size (see Abstract), the device having a body 3 with an opening formed between the ring 11b, the body further having a vacuum supporting plate 14 having vacuum connections 20, wherein template 10 is held in place.

Heidari fails to teach a transparent support plate.

Hector teaches a flexible stamper 20 that is held in position by a body 28 with opening and further having a transparent plate 18 behind the stamper that allows for a UV source 42 to shine through. Hector is relevant to the arts as it relates to the imprinting arts as the stamper is pressed into a substrate of curable polymer.

It would have been obvious for one of ordinary skill in the art to modify Heidari with a transparent support plate taught by Hector thereby allowing for the material worked upon to be cured by the UV source during imprinting operation.

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4. Claims 3, 4, 9, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Heidari in view of Hector as applied to claims 1, 2, 5-8, 10-15, 17, and 18 above, and further in view of Semiconductor Memories (see IDS).

Heidari in view of Hector fails to teach the supporting plate is formed from silicon dioxide.

Semiconductor Memories teaches the use of Silicon Dioxide as backing support for the silicon wafer (see page 91).

It would have been obvious for one of ordinary skill in the art to modify Heidari in view of Hector to use silicon dioxide as taught by Semiconductor Memories since it is a known transparent material used in the arts that allows for materials to cure.

Response to Arguments

5. Applicant's arguments with respect to claims 1-18 have been considered but are not persuasive. Heidari and Hector references for claims 1, 2, 5-8, 10-15, 17, and 18, while claims 3, 4, 9, and 16 are made in a rejection further in view of Semiconductor Memories. Applicants have argued concerning combination of Heidari in view of Hector. Both Heidari and Hector relate to imprinting of a substrate. In Heidari, the material can be cured via IR radiation or heat, while Hector can be cured with UV radiation. Transparent plates are known in the pressing and molding arts and it is within the knowledge of one skilled in the art to modify Heidari for an alternative and known curing method via UV radiation through a transparent plate for curing the product as taught by Hector.

In regards to claim 2, the curing agent being UV radiation is taught by Hector, thereby, the rejection of claim 2 also remains.

In regards to claims 5-7, the arguments by the applicants concerning the supporting plate being freely movable is noted, however, the claimed invention merely mentions the vacuum system is in fluid communication with the supporting plate and applying a vacuum between the supporting plate and body. In addition, the supporting plate of Heidari is also held in position in relation to the body, and as stated by Heidari, both the template and support plate are held in place by vacuum, see [0056], this in turn has the support plate being held in relation to the body.

In regards to claim 8, 10-15, 17-18, the applicants argue accordingly to the arguments presented to claim 1.

In regards to claims 3-4, 9 and 16, the argument concerning the limitations are considered, however, as stated by Semiconductor Memories, it is known to silicon dioxide as a backing support, and in particular with the teachings of Heidari in view of Hector, and one skilled in the art would know of transparent materials for transparent support plates for use in UV curing in molds. One skilled in the art would be motivated to research and find known materials and as shown by Semiconductor Memories, it is materials such as silicon dioxide is known to be used as backing support and thus be incorporated into the Heidari and Hector as a known material for a support plate, or backing support.

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In regards to claim 4, the vacuum system being in fluid communication with the supporting plate to apply vacuum to the template is taught by Heidari and discussed similarly with claim 5.

Applicants arguments concerning the claims have been considered but are not persuasive.

Conclusion

6. Status of Claims: Claims 1-18 are rejected.

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to EMMANUEL S. LUK whose telephone number is (571)272-1134. The examiner can normally be reached on Monday-Fridays from 9 to 5.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Yogendra N. Gupta can be reached on (571) 272-1316. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Yogendra N Gupta/
Supervisory Patent Examiner, Art Unit 1791

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